

**PLANT PATENT**

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**APPLICATION FOR UNITED STATES PLANT PATENT**

**for**

**CHRYSANTHEMUM PLANT NAMED 'VULCAN TIME'**

**by**

**Mark Roland Boeder, Courts Haugh, Rookwood Lane, West Wittering, PO20 8QH,  
United Kingdom**

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Beverly A. Lee  
Beverly A. Lee

LATIN NAME OF THE GENUS AND SPECIES

Botanical classification: *Dendranthema grandiflora*.

VARIETY DENOMINATION

The new Chrysanthemum variety denomination is ‘Vulcan Time.’

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BACKGROUND OF THE INVENTION

The present invention comprises a new and distinct cultivar of Chrysanthemum botanically known as *Dendranthema grandiflora*, and referred to by the cultivar name ‘Vulcan Time.’

‘Vulcan Time’, identified as 20247-0, originated from a cross made by Mark R. 10 Boeder in a controlled breeding program at Chichester, West Sussex, United Kingdom. The female parent of the new variety is an undistributed, unpatented seedling identified as P551B2 and the male parent is the undistributed, unpatented seedling identified as P341B7. The new variety ‘Vulcan Time’ has been asexually reproduced by vegetative cuttings at Chichester, West Sussex, United Kingdom and the distinguishing 15 characteristics are retained through successive generations of asexual reproduction.

BRIEF SUMMARY OF THE INVENTION

‘Vulcan Time’ is a pot type of Chrysanthemum plant, having a flat capitulum form and red single type flowers. The age of ‘Vulcan Time’ in the photo is 60 days from the onset of short days.

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Comparison with Parent

Plants of the new Chrysanthemum variety ‘Vulcan Time’ are similar to the parent seedling P341B7 in plant habitat and growth rate. In side-by-side comparisons at Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new 25 Chrysanthemum variety ‘Vulcan Time’ differed from plants of the parent seedling P341B7 in the following characteristics.

1. The new variety ‘Vulcan Time’ produces paler red flowers whereas the parent seedling P341B7 produces dark red flowers.

2. Plants of the new variety 'Vulcan Time' have a faster response time than plants of the parent seedling P341B7.
3. Plants of the new variety 'Vulcan Time' have paler green foliage than plants of the parent seedling P341B7.

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#### Comparison with Other Varieties

Plants of the new Chrysanthemum variety 'Vulcan Time' are similar to the cultivar 'Rage' U.S. Plant Patent No. 8,770 in plant habitat and growth rate. However, in side-by-side comparisons at Chichester, West Sussex, United Kingdom, under commercial practice, plants of the new Chrysanthemum variety 'Vulcan Time' differed from plants of the cultivar 'Rage' in the following characteristics.

- 10 1 Plants of the new variety 'Vulcan Time' have a faster response time than plants of the variety 'Rage.'
- 15 2 Plants of the new variety 'Vulcan Time' have larger flowers than plants of the cultivar 'Rage.'

#### BRIEF DESCRIPTION OF ILLUSTRATIONS

Figure 1 is a whole plant view of the new variety 'Vulcan Time' grown in a pot. The colors shown are as true as possible within the usual limits of this kind of illustration.

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#### DETAILED BOTANICAL DESCRIPTION

The following description of the new Chrysanthemum variety 'Vulcan Time' is of plants grown a greenhouse at Chichester, West Sussex, United Kingdom in the month of June. The cultivar has not been observed under all possible environmental conditions. The phenotype may vary significantly with variations in the environment such as temperature, length of day and light intensity, without any variance in genotype. The commercial classification of the new variety is a pot Chrysanthemum.

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Plants of the new variety have been grown successfully under temperature conditions averaging about 18°C at night and about 24°C to 25°C during the day under light conditions of about 5,000 to 6,000 foot candles. The plants respond well to the use

of growth retardant, such as three B9 treatments at about 2500 ppm. To produce a commercial product the plants may be pinched once. The typical container size for commercial growth is 14 cm. It has been observed that the shelf life of the new variety is about 21 days with a response time of about 8 weeks.

5       The following description is with respect to a plant produced as a pot Chrysanthemum. In the description of this new Chrysanthemum variety, color values have been taken from the Royal Horticultural Society Colour Chart (R.H.S.C.C.).

	Plant
10	Plant type: pot  Habit: upright and branching  Height: medium  Width: 32 cm  Branching characteristics (describe): free and spreading
15	Length of Lateral Branches: 13-17 cm  Number of Breaks from Pinch: 4-6  Stem Color: near 137B  Response Time: near 56 days  Vigor: medium
20	Shelf Life: near 21 days  Disease (susceptibility or resistance observed): no observations  Growth retardant type and treatment: 3 applications of 2.5 gram/litre at 2 days, 21 days and 28 days after sticking of unrooted cuttings
	Propagation:  25       Type: <i>vegetative propagation via stem cuttings</i>  Time to rooting: 12-14 days with soil temperatures of 18°C  Rooting habit: fine and fibrous

Foliage

Number of Leaves Per Lateral Branch: 9-12

Compound or single: single

Arrangement of Leaves: alternate

5 Shape of Leaf: typically 5 lobed, ovate

Size of Leaf:      *Width* (cm): near 4-6    *Length* (cm): near 6-10

Leaf Apex: acute

Base: obtuse

Attachment: petioled

10 Aspect: slight undulating

Margin: palmately lobed

Surface characteristics:      *Top*: slightly pubescent

*Bottom*: pubescent

Petiole:      *Color*: near 137B

15                                  *Length*: near 2.5 cm

Venation (describe): net, prominent midvein at under side

*Color: upper side*: near 144B

*under side*: near 144B

Color:      Mature Leaf, *upper side*: near 137B; *under side*: near 138B

20                                  Young Leaf, *upper side*: near 137A; *under side*: near 137C

Flower

Flower type: single

Number of blossoms per branch: 3-5

Inflorescence form: pyramidal

25 Depth of fully expanded blossoms: near 2.0 cm

Diameter of fully expanded blossoms: 6-8 cm

Sepals:

Number: 20-25  
Color: near 137B  
Length: 0.7-1.2 cm  
Width: 0.2-0.3 cm  
5 Texture/Appearance: pubescent

Pedicel length is more or less equal over all flowers and between 4.5 and 5.5 cm

Length: 4.5-5.5 cm  
10 Color: near 137B  
Surface: pubescent  
Habit: slightly undulating  
Strength: medium

Ray Florets:

15 Form/Shape: straight  
Texture/Appearance: matte  
Number per flower: 35-45  
Length: 3.5-4.5 cm; Width: 0.6-1.0 cm  
Apex: rounded or dentate  
20 Base: tapered  
Margin: entire

Disc florets:

Form/Shape: cylindrical  
Texture/Appearance: shiny  
25 Number per flower: 170-250  
Length: near 0.4-0.6 cm; Width: <0.1 cm  
Diameter of disc: 1.0-1.4 cm

Fragrance: faint

Flower Bud (at onset of color):

30 Length: near 0.8 cm  
Diameter: near 1.1 cm  
Form/shape: globular

General flower color:

1. Ray florets, *upper side*:

*Immature*: near 46A

*Mature*: near 45B

5 *Older/Fading*: near 44B

2. Ray florets, *under side*:

*Immature*: near 33C

*Mature*: near 33C

*Older/Fading*: near 33D

10 3. Disc florets:

*Immature*: near 151B

*Mature*: near 6A

*Older/Fading*: near 6A

4. Bud: near 138B

15 Flower progression with age: Flowers fading from red to bronze/orange with age.

Reproductive Organs

Ray Florets: Pistillate

*Stigma color*: near 6C

*Stigma shape*: forked

20 *Style Color*: near 6C

*Style Length*: near 0.4 cm

Disc Florets: Pistillate

*Stigma color*: near 6C

25 *Stigma shape*: forked

*Style Color*: near 6C

*Style Length*: near 0.1 cm

Staminate:

30 *Stamen Number*: 5